DETAILED ACTION

Response to Arguments

1.   Applicant's arguments filed July 14, 2011 have been fully considered but
they are not persuasive.

2.   On pages 5-6 of the remarks, Applicant argues regarding claim 6, that
"Frimout does not disclose change information between the output of the intra-
coded picture and the thumbnail." The examiner respectfully disagrees. Frimout
discloses key frame pictures KF1 and KF2 being encoded according to MPEG
(Figure 1, Element 13), in which I, B, and P frames are coded with respect to
differences between frames. These differences reflect change information
between pictures; e.g. between intra-coded pictures and current pictures.
Therefore, the examiner maintains that Frimout reads on **change information
between the output of the intra-coded picture and the thumbnail**.

3.   On page 6 of the remarks, Applicant applies the same arguments from
claim 6 to dependent claims 7 and 8, arguing that they are allowable "at least by
virtue of their dependency on claim 6." Since the examiner has already shown
above how Frimout reads on the limitations of claim 6, dependent claims 7 and 8
remain rejected.

4.   On pages 7-8 of the remarks, Applicant argues regarding claim 1, that
"Schumann does not disclose generating an inter-coded picture having no
change information for blocks of the inter-coded picture corresponding to the
predefined blocks, and having change information for selected blocks containing
the thumbnail." The examiner respectfully disagrees. Schumann discloses

modifying an MPEG-2 I-frame by inserting macroblocks constituting a graphic element (column 3, lines 12-15). The graphic element could be, e.g. an "update image, displayed via at least one MPEG-2 P-frame." (column 3, lines 20-21). Schumann then goes on to teach non-changed areas *within* the P-frame (**inter-coded picture having no change information for blocks of the inter-coded picture corresponding to the predefined blocks**) being encoded *in the same P-frame* with changed areas encoded using intra-coded macroblocks (**change information for selected blocks containing the thumbnail**) (column 3, lines 21-25). While Applicant may be correct in arguing that Schumann suggests overlaying the intra-coded macroblocks on top of a background image, the teachings of Schumann are not so limited. Schumann states that non-changed areas can be encoded using transparency macroblocks. One of ordinary skill in the art at the time of applicant's invention could reasonably interpret the use of transparency macroblocks to mean nothing more than inter-coded macroblocks. Furthermore, Schumann separately discloses encoding a (singular) inter-coded frame containing both inter-coded background data and intra-coded foreground images rather than an overlay scheme utilizing separately coded frames ("At presentation time, the foreground images, selected by the application for display, are collected and used to encode a complete MPEG-2 P-frame, that is then submitted to the decoder for display." - column 7, lines 4-7). Therefore, for the reasons stated in this office action and in previous correspondence, the examiner maintains the rejection of claim 1.

5.   On pages 8-9 of the remarks, Applicant applies the same arguments from

claim 1 to dependent claims 2-5 and 11, arguing that they "depend ultimately

upon allowable claim 1." Since the examiner has already shown above how

Schumann reads on the limitations of claim 1, dependent claims 2-5 and 11

remain rejected.

6.   A full rejection of the pending claims appears below.

Claim Objections

7.   Regarding **claim 11**, the objection for failing to make grammatical sense is

withdrawn in light of Applicant's amendment submitted July 14, 2011.

Claim Rejections - 35 USC § 101

8.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or
> composition of matter, or any new and useful improvement thereof, may obtain a patent
> therefor, subject to the conditions and requirements of this title.

9.   Regarding **claim 1**, the rejection for failing to positively recite structure is

withdrawn in light of Applicant's amendment submitted July 14, 2011.

10.   Regarding dependent **claims 2-4**, and **11**, the rejection for failing to

positively recite structure is withdrawn because the claim upon which they

depend, claim 1, recites sufficient structure.

11.   Regarding **claim 6**, the rejection for claiming purely software

embodiments is withdrawn in light of Applicant's amendment submitted July 14,

2011.

12.   **Claim 7** is rejected under 35 U.S.C. 101 for claiming software per se (See

prior Office Action, pages 8-9). Applicant's amended claim 7 modifies the

hardware encoder of claim 6 to be a **fast encoder**. As stated in the previous

Office Action (page 9), Applicant's fast encoder, interpreted in light of the

specification, is not limited to purely hardware embodiments and therefore the

deficiency overcome by Applicant's amendment to claim 6, is re-introduced in

Applicant's amended claim 7.

Claim Rejections - 35 USC § 102

13.   The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section
> 122(b), by another filed in the United States before the invention by the applicant for patent or
> (2) a patent granted on an application for patent by another filed in the United States before
> the invention by the applicant for patent, except that an international application filed under
> the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an
> application filed in the United States only if the international application designated the United
> States and was published under Article 21(2) of such treaty in the English language.

14.   **Claims 6-8** are rejected under 35 U.S.C. 102(e) as being anticipated by

Frimout et al (US Patent 7,046,260), hereinafter referred to as Frimout.

15.   Regarding **claim 6**, Frimout discloses a device for generating a menu for a

video recording medium, the menu showing a thumbnail representative of a

recording on the video recording medium and being coded according to a

standard using base pictures and predicted pictures (see column 1, lines 28-31:

"Typically a menu is composed of a background still-picture (which may be

MPEG...encoded)..."; see column 3, line 66 through column 4, line 2: "...a scaling

unit 16 is provided which reads a selected key frame picture from the RAM 15

and performs a scaling operation according to a corresponding area in the

background picture."; see figure 3 particularly Background Picture BP and

Keyframes KF1 and KF2),

the device having a predefined intra-coded picture memory, a

representative picture memory, (see column 3, lines 19-31 : "...RAM 15 is

provided for storing...background and key frame picture data.");

a hardware encoder for generating an inter-coded picture based on the

output of the intra- coded picture memory and containing change information

between the output of the Intra-coded picture and the thumbnail (see column 3,

lines 60-67: "...an assembling unit 12 is provided for assembling a background

picture read from the RAM 15 and a scaled encoded key frame picture applied

from an MPEG encoder 13."; see figure 1 particularly "encoded backgr, picture,"

"scaled key frame picture," and "scaled encoded key frame picture" all being

input into Assembling Unit 12; further see the explanation in the "Response to

Arguments" section above), and

a recording unit equipped to record the predefined intra-coded picture and

the inter-coded picture onto the recording medium (see column 3, lines 19-31 :

"...a disc drive unit 11 for recording on and reproducing from a recordable optical

disc 20...").

16.　　Regarding **claim 7**, Frimout discloses everything claimed as applied

above (see claim 6). Further, the limitations of the claim are rejected in view of

the explanation set forth in claim 6 above (wherein the previously cited MPEG

Encoder 13 acts as both a fast and slow encoder due to it decoding both

backgrounds and keyframes as well as video, as disclosed at column 1, lines 63-

65: "...the normal encoding or decoding pipeline is used for other tasks, such as audio/video loopthrough.").

17.   Regarding **claim 8**, Frimout discloses everything claimed as applied above (see claim 7). Further, Frimout discloses where the fast encoder has a display buffer, the device additionally has an extra memory area and is equipped and arranged to copy, during recording, a picture from the display buffer into the extra memory area, and to subsample, after the recording, the picture in the extra memory area into a picture information representative for the new recording (see column 3, line 60 through column 4, line 19: "...an assembling unit 12 is provided for assembling a background picture read from the RAM 15 and a scaled encoded key frame picture applied from an MPEG encoder 13...Furthermore, a scaling unit 16 is provided which reads a selected key frame picture from the RAM 15 and performs a scaling operation according to a corresponding area in the background picture...Thus, if the scaled key frames are stored in the RAM 15 as separate entities...this can be done as a set of slices to thereby facilitate insertion and replacement of the scaled key frames in the background picture...").

Claim Rejections - 35 USC § 103

18.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

19.　　Claims **1-5** and **11** are rejected under 35 U.S.C. 103(a) as being

unpatentable over Schumann et al (US Patent 6,078,328), hereinafter referred to

as Schumann, in view of Frimout et al (US Patent 7,046,260), hereinafter

referred to as Frimout.

20.　　Regarding **claim 1**, Schumann discloses a method for generating a menu

for a video recording medium, the menu showing a thumbnail representative of a

recording on the video recording medium and being coded according to a

standard using base pictures and predicted pictures (see column 3, lines 58-67:

"...a DVD player 202...The player 202 also receives user commands from a

remote control unit 208, from which a user may respond to menu items,

displayed by the application on the screen via MPEG- 2 graphics per the

invention, for selection."; see figure 1 particularly MPEG-2 Decoder 104; see

figure 2 particularly User Control Unit 208; and see figure 3 buttons Play Movie,

Play Previous, View Disc Status and Movie Settings being displayed over

background titled Disc Menu), the method having the steps of

　　　　starting with a predefined intra-coded picture including predefined blocks,

generating, by a hardware encoder, an inter-coded picture having no change

information for blocks of the inter- coded picture corresponding to the predefined

blocks, and having change information for selected blocks containing the

thumbnail (see column 3, lines 16-25: "...graphics elements are combined with

the base image overlay. This is performed...displaying a base image comprising

an MPEG-2 I-frame; and overlaying the original base image with one or more

update images, displayed via at least one MPEG-2 P-frame."; see column 4,

lines 25-28: "This is carried out by implementing an MPEG-2 I-frame as a base image, to which is added at the end user station, one or more temporary MPEG-2 P- frames containing one or more graphical elements."; see column 7, lines 4-7: "At presentation time, the foreground images, selected by the application for display, are collected and use to encode a complete MPEG-2 P-frame that is then submitted to the decoder for display."; see also figure 3 particularly buttons Play Movie, Play Previous, View Disc Status and Movie Settings being displayed over background titled Disc Menu), and

storing both the predefined intra-coded picture and the inter-coded picture as menu information (see column 5, lines 1-24: "In order to facilitate display within a DVD player...the resultant I-frame data and P-frame data are wrapped within a DVD structure, in the form of 2k sectors of data bounded by headers conforming to the DVD specification.").

However, Schumann fails to explicitly disclose storing ..."on the video recording medium." The examiner maintains it was well known to include the missing limitations, as taught by Frimout.

In a similar field of endeavor, Frimout discloses storing ... "on the video recording medium" (see column 1, lines 41-58: "...when a recording is added on an existing disc...the new menu picture is encoded and recorded to the appropriate area on the disc.").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify method of Schumann to include the teachings Frimout, for the purpose of circumventing a normal encoding-decoding

pipeline and therefore requiring a minimum of additional hardware and software
(see column 7, lines 7-16 of Frimout).

21.   Regarding **claim 2**, the combination of Schumann and Frimout discloses
everything claimed as applied above (see claim 1). Further, Frimout discloses
wherein a picture information representative for more than one recording is used
for generating the inter-coded picture (see column 1, lines 33-40: "...the menu is
presented with specific key frames, each on representing a track or recording.
Each used key frame is scaled and a number of key frames are assembled
together to form the menu picture."; see column 2, lines 15-34: "...the assembling
step is performed by replacing entire portions of the background picture by new
portions which represent the scaled at least one key frame picture."; see figure 3
particularly KF1 and KF2 on Background Picture BP as well as figure 4,
particularly steps SI00 and S103-S104).

        Therefore, it would have been obvious to one of ordinary skill in the art at
the time the invention was made to modify method of Schumann to include the
teachings of Frimout, for the purpose of eliminating the need for full picture
decoding and encoding and requiring only a very limited amount of memory (see
column 2, lines 12-14 of Frimout).

22.   Regarding **claim 3**, the combination of Schumann and Frimout discloses
everything claimed as applied above (see claim 1). Further, Frimout discloses
wherein the menu is updated with information related to another recording on the
video recording medium by generating an inter-coded picture having changes
only for selected blocks containing picture information representative for the

respective recording (see column 1, lines 36-40: "Each time a new recording is added to the disc, an entirely new background picture needs to be assembled. This can either be achieved from the scratch or by just adding the new key frame to the old background picture.").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify method of Schumann to include the teachings of Frimout, for the purpose of eliminating the need for full picture decoding and encoding and requiring only a very limited amount of memory (see column 2, lines 12-14 of Frimout).

23.   Regarding **claim 4**, the combination of Schumann and Frimout discloses everything claimed as applied above (see claim 1). Further, Schumann discloses wherein an inter-coded picture is added to a previous inter-coded picture (see column 8, lines 4-9: "A graphics change thus is selected and an additional, corresponding, P- frame is created. This process is completed for each graphics element to be displayed. For example, four buttons may be represented by four (or fewer) P-frames, each depicting one or more buttons.").

24.   Regarding **claim 5**, the combination of Schumann and Frimout discloses everything claimed as applied above (see claim 1). Further, Frimout discloses a picture from an encoder display buffer is duplicated into an extra memory area during the new recording, and the picture in the extra memory area is subsampled after the new recording has been terminated (see column 3, line 60 through column 4, line 19: "...an assembling unit 12 is provided for assembling a background picture read from the RAM 15 and a scaled encoded key frame

picture applied from an MPEG encoder 13...Furthermore, a scaling unit 16 is

provided which reads a selected key frame picture from the RAM 15 and

performs a scaling operation according to a corresponding area in the

background picture...Thus, if the scaled key frames are stored in the RAM 15 as

separate entities...this can be done as a set of slices to thereby facilitate insertion

and replacement of the scaled key frames in the background picture...").

Therefore, it would have been obvious to one of ordinary skill in the art at

the time the invention was made to modify method of Schumann to include the

teachings of Frimout, for the purpose of eliminating the need for full picture

decoding and encoding and requiring only a very limited amount of memory (see

column 2, lines 12-14 of Frimout).

25.   Regarding **claim 11**, the combination of Schumann and Frimout discloses

everything claimed as applied above (see claim 1). Further, Schumann discloses

wherein the <u>blocks of the</u> inter-coded picture blocks corresponding to the

predefined blocks are not encoded by <u>the</u> encoder (see column 3, lines 16-25:

"...graphics elements are combined with the base image overlay. This is

performed...displaying a base image comprising an MPEG-2 I-frame; and

overlaying the original base image with one or more update images, displayed

via at least one MPEG-2 P-frame."; see figure 1 particularly OSD Graphics

Subsystem 102 sending Bit Mapped Data to Display Device 110 without first

going through to an encoder; see also figure 4, particularly the P-Frame List in

MPEG Graphics Subsystem 414 being indirectly sent through to Decoder and

then output as Audio/Visual Output 406).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL HESS whose telephone number is (571)270-7933. The examiner can normally be reached on Monday - Friday 8:30am-6:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Vaughn can be reached on (571) 272-3922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Michael J Hess/   /William C. Vaughn, Jr./
Examiner, Art Unit 2481   Supervisory Patent Examiner, Art
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